AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0020] with the following amended paragraph:

[0020] As shown in Fig. 1, microencapsulation system 20 may include reservoirs 22 and 24, inner chamber 26, chamber 28 and microsphere dispensers 30 and 32, all of which may constitute a "microcapsule production unit" of microencapsulation system 20. In particular, reservoirs 22 and 24, inner chamber 26, chamber 28 and microsphere dispensers 30 and 32 may be collectively adapted to form microcapsules having one or more encapsulated particles and/or fluids. In some embodiments, microencapsulation system 20 may include pulsatile flow generators 34 and 36 respectively coupled to reservoirs 22 and 24 as shown in Fig. 1. In such embodiments, pulsatile flow generators 34 and 36 may ~~be~~ constitute a part of the microcapsule production unit of microencapsulation system 20. As discussed in more detail below, however, pulsatile flow generators 34 and 36 are not necessarily needed for the generation of microcapsules in some embodiments. Consequently, one or both of pulsatile flow generators 34 and 36 may be omitted from microencapsulation system 20 in some embodiments. As noted above, a "microcapsule", as used herein, may generally refer to a droplet of material synthetically encased with an outer protective shell having a diameter ranging from sub-micron dimensions to a few hundred microns. Such a term may generally be synonymous with any spherical microscopic vesicle including microspheres, micelles, inverted micelles, bilayer vesicles and lipsomes.

Please replace paragraph [0022] with the following amended paragraph:

[0022] In general, reservoirs 22 and 24 may be adapted to store materials with which to form the interior of a microcapsule. In some medical or pharmaceutical applications, reservoir 22 may be specifically configured to store a contrast agent medium for imaging CT scans, while reservoir 24 may be configured to store an aqueous drug solution, such as antibiotics, enzymes and/or immune stimulants. In other cases, reservoir 22 may be adapted to store live cells for transplantation purposes and reservoir 24 may be adapted to

store an immunosuppressant medium. In such an ~~embodiments~~ embodiment, the fluid stored within reservoir 22 may be configured to serve as a drug carrier within the interior of a microcapsule. Other mediums used in the medical or pharmaceutical industry may also or alternatively be stored within reservoirs 22 and 24. In yet other embodiments, materials which are used to form microcapsules for applications other than for the pharmaceutical and medical industries may be stored within reservoirs 22 and 24. In particular, reservoirs 22 and 24 may be used to store mediums which are known to be used for the production of microcapsules in applications for waste water processing, bulk pumping of industrial chemicals and/or ownership identification of liquid products.

Please replace paragraph [0026] with the following amended paragraph:

[0026] As shown in Fig. 1, microencapsulation system 20 may, in some embodiments, be adapted to introduce the materials stored within reservoirs 22 and 24 into inner chamber 26 of chamber 28. More specifically, microencapsulation system 20 may include microsphere dispensers 30 and 32, which are adapted to respectively discharge material stored within reservoirs 22 and 24 into inner chamber 26. In general, the volume ratio of materials respectively discharged from reservoirs 22 and 24 to form the interior of a microcapsule may be between approximately 1:2 and approximately 1:10 or, more specifically, between approximately 1:5 and approximately 1:10. In embodiments in which reservoir 24 stores an aqueous drug solution, it may be particularly advantageous to employ volume ratios between approximately 1:5 and approximately 1:10 to maximize the drug payload of the microcapsule. In some embodiments, particulate matter may be combined with the materials from reservoirs 22 and 24 to form the interior of a

Please replace paragraph [0033] with the following amended paragraph:

[0033] As noted above, microencapsulation system 20 may be configured to dispense distinct droplets of material from microsphere dispensers 30 and/or 32 in some embodiments. In some cases, microencapsulation system 20 may include pulsatile flow

generators 34 and 36 respectively coupled between reservoirs 22 and 24 and microsphere dispensers 30 and 32. Such pulsatile flow generators may be configured to supply materials from reservoirs 22 and 24 at any flow rate and frequency suitable for the generation of microcapsules having a diameter ranging from sub-micron dimensions to hundreds of microns, or more specifically between approximately 1 micron and approximately 800 microns and even more specifically between approximately 1 micron and approximately 300 microns. The nozzles included within microsphere dispensers 30 and 32 and/or opening 38 may be adapted to form microcapsules of such size as well. More specifically, microsphere dispensers 30 and 32 and/or opening 38 and, in some embodiments, pulsatile flow generators 34 and 36 may be configured to dispense the materials ~~form~~ from reservoirs 22 and 24 in a synchronous manner to form microcapsules with co-axial interiors. In this manner, spherical droplets having an inner core of material from reservoir 22 and an intermediate shell of material from reservoir 24 may be formed. In some embodiments, pulsatile flow generators 34 and/or 36 and the nozzles within microsphere dispensers 30 and 32 and opening 38 may be configured to generate a flow of materials at an ultrasonic frequency. Microencapsulation system 20 may be configured to deliver materials at lower or higher frequencies, however, depending on the design specifications of the system.

Please replace paragraph [0044] with the following amended paragraph:

[0044] In general, washing compartment 44 may include a fluidized passage for washing and harvesting microcapsules dispensed from the microcapsule production unit of microencapsulation system 20 or, more specifically, from separation baffle system 40. In particular, washing compartment 44 may include a washing solution with which to remove residual polymer/solvent solution from microcapsules transported from chamber 28. In some cases, the washing solution may be used to cure the microcapsules. In particular, the washing solution may include a component by which to strengthen the outer membrane of the microcapsules. As shown in Fig. 1, the washing solution may be introduced into washing compartment 44 through dispenser 46. It is noted that the

washing solution may be introduced into washing compartment 44 in other manners as well or alternatively, depending on the design specifications of microencapsulation system 20. In some cases, washing compartment 44 may be configured to suspend the microcapsules within a flowing stream of the washing solution. In this manner, the microcapsules may be transported through washing compartment 44 and subsequently harvested at or subsequent to exit 58.

Please replace paragraph [0045] with the following amended paragraph:

[0045] As shown in Fig. 1, microencapsulation system 20 may include recirculation line 48 routed from washing compartment 44 to pass the washing solution through phase separator 52 back to dispenser 46. In some embodiments, recirculation line 48 may be one of a plurality of recirculation lines routed from washing compartment 44, each used to withdraw a different density fluid from the compartment. In general, phase separator 52 may be used to separate the polymer/solvent solution rinsed from the microcapsules in washing compartment 44 from the washing solution. In this manner, the washing solution may be returned to washing compartment 44 through dispenser 46 and the polymer/solvent solution may be routed to the side conduit of chamber 28. In some embodiments, phase separator 52 may be also used to separate any other materials recycled from washing compartment 44. For example, residual amounts of the materials used to form the spherical droplets within inner chamber 26 and which were not recovered in separation baffle system 40 may be removed from the recycled stream.

Please replace paragraph [0049] with the following amended paragraph:

[0049] In some cases, microencapsulation system 20 may further include central processing unit (CPU) 54 to control the operation of microencapsulation system 20. In particular, microencapsulation system 20 may include a dedicated microprocessor-based controller or a general-purpose computer configured to automate the operations of

microencapsulation system 20 such that microcapsules may be fabricated and processed in a single continuous process. Consequently, the method described in reference to Fig. 3 below may, in some embodiments, be a computer-implemented method. As described below, CPU 54 may be used to control a variety of components within microencapsulation system 20 and, accordingly, may be coupled to the components of microencapsulation system 20 which it is configured to control. Such individual connections to the components, however, are not illustrated in Fig. 1 to simplify the illustration of microencapsulation system 20. Instead, CPU 54 is shown coupled to microencapsulation system 20 by a dotted line to show a general connection to the components included within the microencapsulation system.